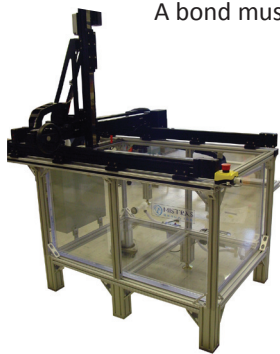


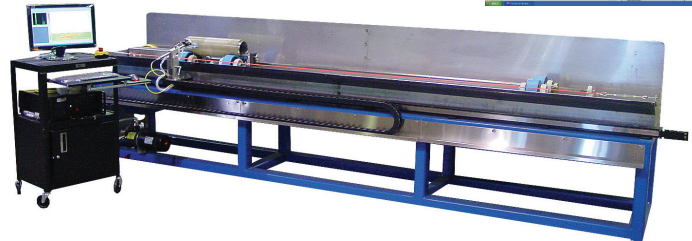
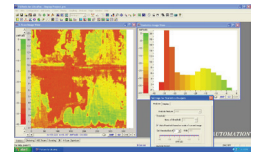
## MISTRAS Delivers Three Ultrasonic Systems for Use with Sputtering Targets

MISTRAS announces the shipment of three Ultrasonic C-Scan systems for use in the inspection of Sputtering Targets for both plates and cylinders used in the semiconductor industry. The bond between sputtering target and its supporting backing plate is a critical reliability element in a sputter deposition system.



A bond must have high thermal conductivity to provide adequate target cooling during sputtering. The target-backing plate joint must also have enough strength to withstand the shear stresses caused by differential thermal expansion between target and backing plate. Defects are any anomalies in a bond, for example, voids in the joining material degrade bond performance. An inadequate bond may fail in service, potentially causing catastrophic separation of the target from the backing plate.

Assurance of quality bonds is a primary concern among users of sputtering equipment and the proven MISTRAS C-Scan systems fully address the NDT needs of their customers.



## Ultrasonic Spotlight: Large C-Scan System for Aerospace

MISTRAS announces the delivery of a large (16x4x3) 4-axis C-Scan system to a major tier one Aerospace components manufacture. The application will be for Ultrasonic inspection of advanced Aerospace composites including laminates, carbon and cored structures.

This system marks the fifth largest system delivered by MISTRAS to the West Coast in order to expand their worldwide presence which includes systems and services. The system includes the following features: Phased Array, contour following and multichannel.



## \*NEW\* Enhancements to AD1210-IPR

MISTRAS announces a hardware/firmware upgrade for their AD1210-IPR pulser receiver card. Due to the close working relationship with several major aerospace components manufactures, MISTRAS has made further enhancements to the industry standard, GE Aircraft, DFO approved, Integrated 12 bit A/D pulser receiver PCI card based system. These enhancements were done to increase near surface resolution, gain linearity and to integrate the time corrected gain and back-wall follower functions.

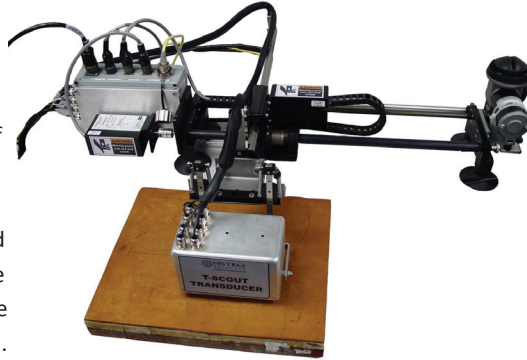
The modifications require the customer's board to be sent back to MISTRAS' Princeton Headquarters or the purchase of a new AD 1210- IPR board.

The upgrade package includes: ECN Updates for BWA and linearity, ASTM 317 calibration and standard calibration and update to latest UTwin (if required).

## The T-Scout Gets An Update

The Thick-Section Composite Oblique Ultrasonic Test (T-SCOUT) system was originally developed under an SBIR Phase II Project sponsored by the U.S. Army through TARDEC/TACOM. T-SCOUT was designed to inspect multilayered composite armor with the first prototype being delivered by MISTRAS on November 2001. Since then, MISTRAS has developed several T-SCOUT applications in areas such as aerospace composites and wind power generation. MISTRAS has continued making improvements in the hardware and software of the T-SCOUT in order to overcome most of the original prototype limitations.

The new and improved T-SCOUT is designed to perform low-frequency, oblique-incidence C-scan inspections of multilayered composite armor panels in a "pitch-catch" configuration. It is designed to perform automated high-resolution C-scans, 0.050", at a maximum speed of 5 in/sec, and manual medium-resolution scans, 0.10 in/sec. using a free-hand position tracking device. In both cases, T-SCOUT is capable of simultaneously producing four (4) C-scan images corresponding to one (1) pulsing sensor at a fixed incident angle and four (4) receivers at different angles.

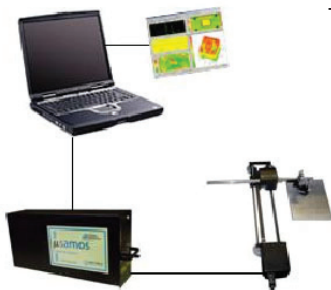


The T-SCOUT main mechanical component is an X-Y automated portable scanner mounted on suction cups, which are connected to a small vacuum pump mounted on the scanner, allowing the system to perform C-scans on vertical composite panels. The T-SCOUT sensor probe consists of four (4) pairs of pulsing-receiving sensors oriented at different angles. The miniaturized ultrasonic module, containing four (4) A/D boards, one (1) pulsing board and one (1) motor-controller board, is mounted on the X-Y scanner and includes connectors for the sensors probe, the free-hand position tracking device, and an Ethernet port for connection to a laptop computer.

The software used to control the signals generation image display and motion control is UTWIN, which runs in the minicomputer also installed in the miniaturized ultrasonic module. Additionally, the T-SCOUT package has a standalone software utility that allows calculating, based on the composite material properties, the optimal incidence angle and frequency necessary to maximize the sensitivity to defects located at different layers inside the composite armor.

## The Rebirth of the Microsonic

With a growing interest in a larger portable UT lab capable scanning system, MISTRAS has reintroduced what was the Microsonic system and is now currently offered as the  $\mu$ -Sonic II. The system provides a larger screen image and a more complete C-Scan imaging data collection and analysis package.



The hardware includes: Laptop PC interfaced with  $\mu$ -Sonic II including UTwin software, AD-IPR-1210, SMC-4 and the Automated X-Y Scanner.

## 2011 ASNT Spring Conference Wrap-up!

On March 21st through March 25th, MISTRAS exhibited at the 2011 ASNT Spring Conference in San Francisco, Calif. The two day symposium is held annually to showcase the latest in Non Destructive (NDT) technologies, giving companies from across the region the chance to come together and exchange ideas and business opportunities.

MISTRAS took advantage of the large turnout of NDT professionals and created a tabletop display to showcase the top products offered from their Products & Systems group. The systems on display included the Time of Flight Diffraction (TOFD) Scanner, along with the Pocket AE and Pocket UT™ System to meet any portable testing needs. All of the systems were available for running tests and demonstrations.

Along with the systems on display, Valery Godinez, Director of Research Contracts and Applications for MISTRAS, and Miguel Gonzalez, Research Scientist for MISTRAS, were on hand to give presentations and discuss the latest in NDT.

### Upcoming World AE/ NDT Events

ASME NDE Forum	Baltimore, MD • July 18
Circuit Breaker Test Conference	Jackson, MS • October 3-7
SAMPE Technical Conference	Fort Worth, TX • October 18-19
ASNT Fall Conference 2011	Palm Springs, CA • October 24-28

### UT Training

July 11 - 15 2011	August 8 - 12 2011
Ultrasonics Level I	Ultrasonics Level II
Columbus, OH - USA	Columbus, OH - USA